Ashutosh Sarkar

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📍 Bengaluru, India

🔗 Resume

📞 9685722570

in Ashutosh Sarkar

Professional Experience

04/2024 – present
Bengaluru

Allen Digital
- **Led the architectural revamp** of the Revision Notes platform, creating a scalable and modular system to deliver interactive revision content across multiple subjects.
- **Built reusable infrastructure using Higher Order Components (HOC)** to streamline integration of interactive features across chapters and formats.
- **Developed rich content rendering features**, including toggling linked assets, key concept highlighting, and multi-format support (text, tables, images, GLB-based 3D models).
- **Engineered 3D visualizations with Three.js**, integrating multiple assets and optimizing performance using model compression, lazy loading, and Level of Detail (LOD) across all sorts of devices.
- **Automated production pipelines** for chapter-wise content deployment, reducing manual effort and improving delivery speed.
- **Integrated GenAI pipelines using LangChain**, enabling structured generation of revision content (concepts, formulas, examples) aligned to each subtopic.
- **Implemented GPT-based content formatting**, converting raw markdown into standardized NEET-ready templates using hierarchical tagging logic.
- **Deployed the platform at scale**, achieving high performance and consistency across devices, while improving user engagement through AI-enhanced learning modules.

10/2023 – 03/2024
Bengaluru

Allen Digital
Data Science Intern
- Led the end-to-end development of an AI-powered **flashcards platform** designed to promote active recall and long-term memory retention across NEET preparation modules.
- Built a fully automated **multi-agent content generation pipeline** using **LangChain**, incorporating Professor, Evaluator, and Student personas (smart/average/poor agents) for robust flashcard quality.
- Engineered a **feedback-based evaluation loop**, enabling iterative refinement of flashcards through agent simulations and conversational critiques — significantly reducing manual QA overhead.
- Designed and integrated a **CRUDB-based orchestration system** to manage task assignment, retries, and feedback between agents.
- Contributed to a **Knowledge Graph framework** that structured curriculum concepts, enabling **personalized flashcard delivery** and context-aware learning paths.
- Collaborated in building **teacher/student conversational bots**, integrating flashcards and contextual memory to support self-paced, interactive learning.
- Streamlined flashcard deployment and generation across chapters, achieving over **70% reduction in manual content creation effort**.

Education

2020 – 2024

Bhilai Institute of Technology, Durg
B.Tech, Mechanical Engineering
CGPA - 7.60/10.0

2017 – 2019	**Macro Vision Academy, Burhanpur (M.P .), 12th, CBSE** 80%
2015 – 2017	**Krishna Public School, Bilaspur** CGPA - 9.0/10.0

Skills

Programming Languages & Libraries
C/C++, HTML & CSS(Tailwind), JavaScript, React JS, React Native, Three.js, Python, LangChain, Node.js

Databases and Skills
SQL, MySQL, MongoDB, TensorFlow
VSCode, NLP, Three.js, OTEL, AWS,

Relevant Skills
GenAI, Data Science, Machine Learning.
Data Analytics, Algorithms.
Web development, Problem-solving.

Projects

DETECTING COVID-19 USING CHEST X-RAY.
- Using chest X-ray images in a 19-layer deep convolutional neural network model and classifying into two classes, Covid-19 positive or no-findings. The model has a successful accuracy rate of 92%.
- The model is based on multiple statistics to provide better results and ready backup solutions depending upon the results produced.

E-COMMERCE PRODUCT RECOMMENDATION SYSTEM
Developed a product recommendation system for an e-commerce platform using React.js, Redux, and Node.js. Integrated collaborative filtering algorithms and Elasticsearch for personalized recommendations and advanced search functionality. Deployed on Vercel and Heroku, enhancing user engagement and sales conversion rates.